

Heat Shrink Scleral Band with Custom-Made Buckle For Retinal Detachment Surgery

Abstract

Discussed is a method and apparatus of correcting retinal detachments by heat-shrinking a specially designed scleral band equipped with a snap-on custom-made buckle for scleral indentation over the retinal tear region. The heat shrink band is made from a heat shrink material such as a polymer or an alloy and is equipped with a custom-made buckle to perfectly fit the topological geometry of the retinal detachment region over the underlying choroid and the sclera, the conjunctiva and within the Tenon's space wherein the band is heat shrunk to create a perfect buckle over the retinal tear region to reattach the retina to the choroid and cause absorption of the subretinal fluid. Conventional, laser, microwave, Joule or radio-frequency (RF) heating means are also discussed.